Visual Impairment and Tertiary Education in Karachi

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Abstract
This paper presents challenges and problems faced by students with visual impairment in tertiary education in Karachi, Pakistan, from an emic perspective. This research discusses various external barriers experienced by students pursuing their Bachelor/Master degree (aiming to finish sixteen years of education) in tertiary education institutes in Karachi. The findings were also corroborated by disability experts and those students with visual impairment who have finished their sixteen years of education. Drawing on primary research findings and a thorough literature review, this research explores – by reflecting and discussing past experiences – how labeling, societal attitudes, educational resources, teaching pedagogy, naturalization of social constructs and integration of visually impaired in contemporary tertiary educational institute(s) in Karachi influence their access to quality education. Finally, strategies and steps to improve tertiary education system in Karachi are also examined and shared in this paper.

Keywords: Students with Visual Impairment; Pedagogy; Social Constructionism; Habitus; Inclusion
1. Introduction

The 6th Census Report of Pakistan 2017 confirmed a total population increase, from 132 million, in 1998, to about 207 million, in 2017 (Pakistan Bureau of Statistics, 2017). However, the proportions of people living with disabilities, and specifically forms of visual impairment are not provided. In Pakistan, which depends largely on aid and humanitarian assistance in the establishment of local, social programs for underserved population groups, visual impairment and accessibility in tertiary education does not figure as a top priority. Yet, visual impairment is seen as an affliction from God (Suresh et al. 2014: 13) and helping people with visual impairment by means of charity and financial aid, notwithstanding opportunities for social inclusion, is considered a good deed – a necessary act of support for those who are disadvantaged. This type of charity is often reduced to, or even predominately channeled through, the medical model of social support, because individuals with disabilities are seen primarily through a healthcare lens, since a disability is too often viewed as a problem in itself (Suresh et al. 2014: 10). An alternative approach to this, and which is now widely practiced in most of the developed countries is to frame disabilities within a social and human rights-based model, which considers various impairments in context, and also the societal and political dynamics and realities that limit the social inclusion of people with disabilities, the contributing factors that inhibit their personal agency and autonomy, and their access to opportunities. According to this model, the United Nations Convention for the Rights of Persons with Disabilities (UNCRPD) constitutes one of the major cornerstones, which informs the design and implementation of programs and services to these underserved communities. Within this frame, the notion of equity becomes important. Pakistan ratified UNCRPD in 2011, but no significant programs, services programs, services, or follow up policy reforms, have been adopted or implemented since. Thus, while a government commitment has been made to eliminate discrimination, no systematic measures have been taken to make state-funded institutions such as schools and universities/colleges, accountable, on the basis of this commitment. Without mechanisms of accountability, publicly funded institutions may continue to discriminate by limiting access to their program to students with special needs.

Along with limited progress in improving the quality of life of persons with disabilities, access to quality education for them, is also limited. The social position of people with visual impairment, and the intersection of their disability, with class, gender, and religious background can have compounded effects on access to education in general, though again, the program may focus on primary and secondary education, leaving them with few options after that. Societal and cultural dynamics, and the relations between the non-governmental organizations (NGOs), governmental administration, and the higher education system constitute a complex nexus of conditions, one that differs from rural to urban settings and between them. Karachi is thus seen as a specific macrocosm where people with varying visual impairments navigate the conditions of this nexus. Karachi, despite its large population and large number of universities and colleges, offers some, despite limited, educational opportunities for them. And universities and colleges have not yet systematically reported back to any ministry, provincial (education) or federal (Higher Education Commission or Human

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1 “Should per student funding at every school be exactly the same? That’s a question of equality. But should students who come from less get more in order to ensure that they can catch up? That’s a question of equity.” (Mann, 2014) In other words, equality is typically defined as treating the visually impaired the same and giving them access to the same opportunities as given to everyone else. On the contrary, equity demands proportional representation (by the nature of disability, race, class, gender, etc.) in those same opportunities.
Rights), on the services and programs, and accommodations provided to them. People with visual impairment, their needs, and the challenges they face in seeking access to quality tertiary education, are the focus of this research.

1.1 Policy Background

Article 25A of the Constitution of Pakistan 1973 clearly states that the “State shall provide free and compulsory education to all children of the age of five to sixteen years in such manner as may be determined by law.” The article asserts that education is a fundamental right which must be fulfilled without any discrimination. Despite constitutional commitments on inclusive education, the “Directorate General of Special Education has established 46 special education centers” among which “11 centers [are] for persons with visual impairment.” (JICA, 2002: 14)

After the 18th Amendment of the Constitution, the Sindh Right of Children to Free and Compulsory Education Act of 2013, was perhaps the first ordinance to recognize special education as “educational programs and practices designed for students, as handicapped or gifted students, whose mental ability, physical ability, emotional functioning, require special teaching approaches, equipment, or care within or outside a regular classroom.” (Suresh et al. 2014: 23). Nevertheless, the ordinance mentions nothing about inclusivity. The Japan International Cooperation Agency (JICA) in its Country Profile on Disability underlines the efforts of the National Institute for Special Education (NISE), established in 1986 to “develop expert training programs, long-term and short-term certification courses, build partnerships with universities, research centers and international organizations as well as develop and publish instructive materials.” (JICA, 2002: 14) Many private Braille libraries and publishing facilities have been established since then.

This study identifies the needs of university students with visual impairments, and challenges and barriers that they experience in the pursuit of their tertiary education – from an emic perspective. It highlights features and characteristics of the education system along with practices that may or may not support their needs, and strategies meant to overcome current obstacles and challenges. The research also critically examines social attitudes, campus accessibility, and their impact on the access of tertiary education, along with the development of habitus. In the conclusion, a set of recommendations are proposed, grounded in research findings, that can contribute to making inclusive education models a reality in Karachi.

1.2 Research Questions

1. What are the tertiary education needs of students with visual impairment in Karachi?

2. What are the common challenges and barriers in accessing and/or providing university education adapted to students with visual impairment in Karachi?

3. What adapted services and programs are currently offered in Karachi’s educational system and how are the visually impaired served and/or under-served in universities across the city?

2. Methods

This research is a social constructionist, and post-structuralist qualitative study framed by Bourdieu’s conceptualization of Habitus, to grasp various nuances of the informed problem. It investigates tertiary educational needs of students with visual impairment – at individual level – to uncover their personal, subjective and socially located experiences, beliefs and
attitudes regarding disability and their engagement with both their own visual impairment, and educational antecedents.

Post-structuralism and the constructionist perspective are frames well-suited to an analysis of experiences, perceptions, attitudes and practices of representations, notably those that involve ways in which disabled people are defined, how they are perceived, how people interact with them, and therefore what opportunities they are given, and what roadblock they must face. In the context of physical disability, accessing education is always an act of power, and a demonstration of empowerment. Conversely, those with the power to empower people with disabilities, are often ill-informed or blind to such minorities; as they think/act within the dominant frame of the able bodied habitus. The able-bodied habitus normalize ways of doing things that may alienate those with impairments (Soder, 1989: 120). This imbalance of power explains for instance, the normalization of segregation or exclusion of people with impairments from mainstream society. Hegemonic ways of thinking/acting within the frame of able-bodied habitus become catalysts for all kinds of inequality, inequity, injustice and disparity (Soder, 1989: 120; Ali & Hameed, 2015: 4). This study attempts to uncover the structural barriers to accessing tertiary education, using the concept of habitus, from the point of view of students with visual impairments, and from the vantage point of the hegemonic able-bodied logic of mainstream society and educational institutions.

This research was conducted in Karachi. All research participants were in some way visually impaired. The data collection methods adopted for this study were structured, and semi-structured interviews with university/college students/graduates living with visual impairments, and semi-structured interviews with subject experts. The selected respondents belonged to different economic, educational and residential background, and this diversity allowed the research to examine similarities and differences in the structured dispositions, beliefs and attitudes of student respondents, as they experienced tertiary education. The research sample included three distinct categories of participants. The first (1st) category included eight (8) university students with visual impairments, two (2) visually impaired graduates and two (2) local disability experts, Dr. Faiz Rasool and Mr. Zulqurnain Asghar. A non-probability sampling approach was adopted for this research and purposive sampling was used to identify research participants. Within the frame of purposive sampling, convenient and snowball sampling methods were used to recruit research participants, based on their volunteer participating.

The data was coded in three steps using MAXQDA. Firstly, open coding was performed where the transcriptions were read thoroughly. A second round of coding, axial coding, was used to further refine those concepts, identify inductive findings, and hone-in on the most important aspects of emergent results. Lastly, selective coding was performed where categories were clustered into core themes and sub-themes.

3. Results and Discussion
3.1 Social Attitudes & Impact on Education

2 “Equity to visually impaired students at tertiary education would mean to ensure fairness at all levels. Similarly parity would mean use of inclusive pedagogies that may allow students to develop to their full potential.” (Thurston, as mentioned in Ali & Hameed, 2015: 4)
3 Lecturer, visiting faculty with a PhD in Social Sciences, and a resident of Karachi.
4 Clinical psychologist with Master’s degree, and President of a Disabled Person’s Organization (DPO)
3.1.1 Nature of Social Attitudes

“The discrimination that persons with disabilities face is severe and widespread, but it’s largely based on ignorance; it’s not based on hatred. It’s not like racial discrimination. People don’t hate disabled people, they just don’t know how to relate to them.” (Suresh et al. 2014: 42)

On the nature of mainstream attitudes towards them (the respondents), Mr. Asghar exclaimed that “they [the able-bodied] do not consider disabled a human being.” This statement corroborates the responses of respondents who also felt that “society” often “equates them [people visual with impairments] to mentally retarded kids” or they are looked down upon and viewed with pity, as “needy” or worse, as “beggars.” This attitude, according to a respondent and Dr. Rasool, is generated from common prejudices or a conservative mindset that demonstrate insensitivity towards differently-abled persons. If viewed as deficient, or “disabled,” they may well be regarded as incapable, dependent and characterized as freeloaders who “cannot perform” valuable work by themselves. The help offered, can thus be disempowering, despite coming from a generally “generous and compassionate mindset.”

Attitudes and behaviors that seem normal for able-bodied persons can feel like a lifetime accumulation of micro-aggressions, as per the experience of consistent exclusion or difficulty in accessing basic opportunities. Mr. Asghar mentioned that these attitudes are pervasive and part of a dominant collective way of thinking that is also intrinsically part of familial or educational life. Even at home, children with visual impairment are often considered “an affliction” or “a challenge” from God; while in special schools, they are often “bombarded” with religious ideas about their condition, which inculcates guilt in them and engenders feelings of loneliness and exclusion. In turn, limiting beliefs impede the sense of possibility that is needed from society at large, from family members and from persons with visual impairments themselves. This leads to endemically poor social integration, which affects their mental wellbeing as well. Dr. Rasool brings further nuance to this discussion. He added that, on the contrary, children who receive positive feedback, and support during their early socialization, namely from parents and siblings, and those who access empowering schooling, can end up developing a confident and ambitious habitus. All the respondents who were students at the time of the study (structured interviews) experienced a mix of accommodating/supportive and degrading/marginalizing attitudes from the people that they have been interacting with throughout their life. People without sensory impairments possess embodied cultural capital, which the respondents do not have access to. Insensitivity to this reality may be perceived as rude or merely ignorant, while oversensitivity to this difference can lead to practices of over-facilitation.

3.1.2 Impact on Education

According to Goetz et al, (2008), “empirical evidence supports the reciprocal relationship between academic achievement and self-concept.” (mentioned in Bodovski, 2015: 44) The self-concept or self-evaluation of students with visual impairment is genuinely affected by the dominant able-bodied habitus which shapes the social dispositions of both sighted and

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5 At home and in school, stigmatization gives rise to barriers in their path, obstacles in accessing quality education.
6 Upon exemplifying this reality, Dr. Rasool states, “If after this interview, I meet you and we sit at a table with something to eat and drink, and you ask ‘what would you take with tea?’ believe me, it is a ‘terrible question’ to ask although it is a polite one as well because I do not know what is lying there on the table.”
visually impaired persons, either in blindly accepting prejudice, or in struggling against it. However, negative attitudes and behaviors towards visually impaired persons in society and in educational institutes, cause a multitude of challenges for them to face.

A respondent, while sharing an experience, demonstrated how the negative attitudes of peers affected him: “sometimes students’ attitude affects us especially in group assignments; for instance, in our group assignments I was taken out [of the group] because of other members’ attitudes.” A similar instance was recalled and shared by another respondent who found it irritating to work in a group that demonstrates superficial sympathy but unwittingly excludes her: “when we are given group assignments, what happens is that […] they include me but do not involve me; they do not let me participate.” Lack of support or assistance from peers – and sometimes from teachers as well – not only result in exclusion and in the undermining of their capabilities, but it can also pressure a student to change one’s course of study, or even dropout, eventually (Ali & Hameed, 2015: 8). The discontinuation of education results not only due to the lack of peer and administrative support, but also due to the difficulties faced in communicating the rights and needs of the visually impaired. When asked about the difficulties in interacting with strangers for educational purposes, all 8 respondents enrolled in tertiary education, faced persistent challenge. They clarified that visual impairment is not the primary cause of any set back, but rather that the communication gap is a more important factor. Depending on their individual habitus, some students can prevail and find solutions to such communication problems, by adaptation to, or successful negotiation of their circumstances; while others may not have the propensity to face these roadblocks, and choose to drop out. This was corroborated by Dr. Rasool who shared that one of his visually impaired students was unable to “find support from other teachers, fellow classmates and university administration, and faced difficulties in communicating his problems and concerns. As a result, he was demotivated to continue education.”

A respondent also recalls such discouraging and demotivating behavior, for his selection of Computer Sciences, during the initial years of tertiary education. Not only did private institutions refused him admission, not for failing to meet requirements but rather because they were not willing to provide accommodation, they “even asked [him] to go back from the reception.” A similar circumstance affected another visually impaired student, shared Mr. Asghar, who felt that there just was not enough support and accommodation to pursue a PhD in Physics. This, perhaps, points to the responsibility of STEM teaching institutions to think of ways to accommodate people with sensory impairments (mentioned in Ali & Hameed, 2015: 8). Half of the respondents enrolled in postsecondary studies also mentioned having experienced discrimination, exclusion and condescension by peers and teachers at their universities.

Besides facing attitudinal and behavioral issues in society and university, students with visual impairment also, often experience a myriad of structural and pedagogical barriers that influence their performance and integration in mainstream education systems.

3.2 Educational Resources

“Only education can teach us to do something. Tell me what else can a visually impaired do. Can he work in the construction industry? NO. Can he become a plumber? NO. He cannot even become a driver. Therefore, only education can pave our way to a job. If I compare a person with disability and a person without
disability then I would say that the former needs double (more) education than the latter. It is more important to those with disability simply because the person is nothing without education; he cannot do anything. My teacher used to say “talim k beger tou aap ki mout hai” (without education, it is your death) because you are nothing without education. And he was absolutely right!” (respondent, structured interview)

The pursuit of tertiary education is predominantly driven by the feelings of economic competitiveness in an increasingly knowledge-driven society, as can be observed in Karachi (Santiago et al, 2008: 13). Tertiary education has been seen as a structural instrument in contributing to social and economic development and the improvement of standards of living for individuals and communities, over many decades. It helps students in a) garnering human capital, b) building knowledge and know how, and c) using/applying this knowledge in the market economy (Santiago et al, 2008: 14). When asked to appraise the importance of tertiary education in their life, all respondents of structured interview rated 5 (very important).

Up on further clarification, all participants touched upon financial autonomy and economic stability as their rationale for pursuit. This can further be corroborated from aforementioned account where the respondent, while subtly explaining environmental barriers, portrayed education as a tool for attaining ultimate financial autonomy. A similar stance transcribed during an interview where the respondent called tertiary education an “asset” because with education “you can earn and eat on your own.” Hence, education is perceived as a resource that decisively contributes to their independence. This is true for most people in this world, but perhaps more so, for those facing structural and systematic discrimination.

According to Ali & Hameed (2015), most visually impaired people face difficulties in accessing information regarding admission processes, career guidance and university selection (p. 7). And this may be exacerbated when they come from disadvantaged background, and when parents themselves have limited literacy, or familiarity with tertiary education. Similar challenges and concerns were raised by participants. All interviewees, except for one, were studying in Social Sciences and/or Humanities. When asked to rate the difficulty level (1 being easy and 5 being most difficult) for accessing information regarding education six out of eight (6/8) rated from two till four. Four out of seven (4/7) respondents enrolled in the social sciences and/or humanities said that they wanted to pursue a different degree. Dr. Rasool explained that “after matriculation and intermediate, blind people do not have practical options to opt for Science subjects because the labs in colleges and schools are not designed to accommodate visually impaired individuals.” The lack of access to visual-impairment-friendly STEM education at the intermediate and high school level, nurtures a complacent habitus, one that is resigned to doing something else. Indeed, respondents seemed accepting of the reality that in Karachi our tertiary education institutes are incapable of delivering STEM related subjects to visually impaired students. As Mr. Asghar recalls that many of his students “who applied in economics were not offered admission because, they were told that they are unable to pursue it.” The fault lies in the poor training of educators, and in the deep-seated belief that Mathematics cannot be taught without visual aids.
Findings also revealed that all respondents (except for one) chose public university because it is relatively less expensive as compared to others. Some applied for admission in private universities, but no one offered them admission, despite their access to a scholarship and possessing good grades. They mentioned that private institutes are expensive and do not cater to the visually impaired (Suresh et al. 2014: 34). This is perhaps alarming as it may be a generalized problem, which points to potentially illegal forms of discrimination. Second, it is a large and renowned university, and degrees awarded by this institution are well regarded nationally and internationally. Respondents also considered this institution because of the relatively high influx of visually impaired students who pursue education there. An important discrepancy in discussing “inclusion” in disability studies, is the conflation of this term (inclusion) with “integration,” whereas it is believed that the admission of visually impaired students based on quotas and merit, coupled with tuition concessions, is a sign of their integration in a school or society; as can also be seen in a research conducted by Ali & Hameed (2015). This mistake, unfortunately, leads to premature institutional self-congratulations. If the visually impaired were “integrated,” they would not need quota systems, and they would not face systemic inequity, prejudice and limited access to opportunities.

3.2.1 Inclusion or Dumping?

The terms ‘inclusion’ and ‘integration’ are commonly used interchangeably, despite their distinct meanings. Inclusion is also used synonymously with ‘mainstreaming’ and little heed may be given to the nuance in meaning (Jahnukainen, 2015: 60). To further delve into inclusion-integration-mainstreaming distinction, other key questions ought to be asked. Aside from admission, do university/college institutions provide special learning aids to its visually impaired students? Are classes and campus spaces fully accessible to students with visual impairment? Are visually impaired students facilitated throughout the process of examination? These are some pertinent questions to answer prior declaring an institution is ‘inclusive.’

“The university has done charitable work without appropriate infrastructure.” (Student Respondent)

All respondents who were enrolled, studied in separate departments. They were asked if they had access to learning aids, and a list of appropriate instruments and tools adapted to the needs of visually impaired students was provided. All respondents confirmed that special devices or tools like audio recordings of sessions, Braille books, computer services with screen-reading software, were not made available to aid them along the way. On the contrary, they (respondents) repetitively referred to the assistance provided by their peers and family relatives, especially to read out or audio-record handwritten notes. As a respondent recalls, “there is no concept of screen-reading software, no concept of audio recordings, and no concept of e-books.” The unavailability and inaccessibility of learning aids impede visually impaired students’ access to quality education and this also curbs their effective participation in classes and group assignments. This evident lack of resources also makes them dependent on their friends, classmates and family members to access the content of notes, books and in making sense of lectures. However, the unavailability of resources is not limited to students only, but to teachers as well. Dr. Rasool, who has 9 years of teaching experience in both public and private universities in Karachi reaffirms that there is a sheer lack or absence of resources and

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7 The name of the university is anonymized for confidentiality purposes.
facilities for teachers as well, to deliver tertiary education that is adapted to the needs of the visually impaired. One respondent went as far as describing this state of affairs as “bosieida” which refers to a state of decay, but more precisely to something that is frozen in time, deeply archaic and outdated. The lack or complete unavailability of adapted learning aids for both teachers and students in the provision of tertiary education is again rooted in structural discrimination, and but also, ignorance and disinterest from institutions. This, no doubt, requires a policy-level intervention.

According to the Higher Education Commission (HEC) Pakistan’s Policy 2019, there are five modes of examination that can help accommodate a visually impaired student’s needs. These include a) the use of computers, b) the use of a writer (one who writes answers for visually impaired), c) an oral examination, d) an exam conducted with separate invigilation, and e) the use of scriber/copier (verbatim transcript) (p.7). Each of these modes has advantages and disadvantages (Ali & Hameed, 2015: 14). As per the research findings, the most commonly used mode of examination, experienced by respondents, was the use of writers; however, it is not always the preferred solution. There are very specific guidelines provided by HEC to universities, which must be followed to hiring a writer for visually impaired students. Unfortunately, these rules were allegedly disregarded, and instead, students had to seek and hire their own writers, and sometimes incur out of the pocket costs to cover their salaries. The use of a writer in the examination of visually impaired students, seems to have become a norm in Karachi: “despite your hard work and complete preparation for exams, without a writer, you cannot appear for exams,” exclaimed a respondent. Secondly, exams with the use of a writer are time-consuming because the student dictates everything to the writer. Although HEC allows the provision of extra time for the visually impaired in their exams, this exception is not always granted as it is “inconvenient.” Moreover, the writer must also be trustworthy and “scholastically on par” with the student. Mr. Asghar recalled the horrifying moment when: “I was writing my English paper and the writer said, after half of it, that he is tired and not writing anymore. And with that he left.” Another respondent recalls that he was deliberately failed twice for allegedly cheating on exams by bringing an overqualified writer with him. As part of this ordeal, he said that he had to prove himself by giving a viva to an invigilator. While some visually impaired persons may take advantage of the writer-model of examination, many of them now stand the risk of being accused of not meeting requirements if they hire a writer that is even slightly erudite.

The aforementioned discussion highlights endemic deficiencies, revolving around the scarce use and provision of learning aids, inaccessible course materials, and poor execution of examination. Thus, we must reconsider about calling universities “inclusive” that are merely meeting legally prescribed quotas for this may be closer to what McGregor and Vogelsberg (1998) termed as “dumping.” (9-10).

3.2.2 Is Current Teaching Pedagogy a Good Fit?

When discussing the concept of inclusive education, teaching practices play an instrumental role, in either enabling learning and empowerment or in hindering these. This study corroborates the findings of Mwakeyja’s (2013) research (conducted in Tanzania) which
also confirms that teaching practices of general teachers\textsuperscript{8} were not “adapted and adjusted enough to accommodate and accept the differences among the students.” (Mwakeyja, 2013: 9). Six out of eight (6/8) of the university-enrolled respondents in this study also claimed that their teachers were not responsive enough to their needs in planning lessons and activities for class. Their assertion was grounded in experiences. Almost all of them mentioned that teachers used whiteboards as part of their teaching pedagogy, which is not particularly helpful for a person who cannot see or who may have severely limited vision. Their participation in class discussion and activities is further hampered due to visually impaired students’ inability to follow and respond to visual cues and gestures, such as referring vaguely to figures on a black/whiteboard (Ali & Hameed, 2015: 9 & 18), a circumstance that is further exacerbated when the class group is very large. “If there are 100 students in class, the teachers will not pay heed to that 1 or 2 student(s) with visual impairment. On the contrary, they use phrases like “left side waly cheez ko right side waly mein subtract kar do” (subtract the left side values from right). A similar experience affected another respondent, who criticized the pedagogy of teachers who unreflexively used demonstrative pronouns and phrases like “ye ye hai, ye wo hai” (this is this or this is that), while referring to the whiteboard in class. They also shared that some instructors even refused to have their record the class sessions, which caused difficulties for them to study. These practices maintain or worsen the practical disadvantages of visual impairments, and thus, constitute exclusivist pedagogies, far removed from any concerns over equity. Some respondents were of the view that instructors and the university make no effort in ensuring equal participation, a claim that was also made by the respondents of Ali & Hameed’s (2015) study (p.12).\textsuperscript{9}

Mr. Asghar attributes these conditions to generalized insensitivity and lack of knowledge among teachers, towards the needs of visually impaired students. “They should allot front seats to students with visual impairment, instead teachers put them in the back row and say “konsa aapne board ko dekhtna hai (not that you can see the board anyhow).” Another respondent believed that instructors often take extremely inappropriate measures in dealing with the needs of students with visual impairment. The adoption of such teaching practices by general teachers, “demands students to change so that they fit into the existing education system,” (Mwakeyja, 2013: 9) instead of expecting teachers and institutions to be better prepared to accommodate the needs of students with relatively common disabilities.

However, instructors with prior experience in teaching the visually impaired, and with knowledge of, and attention to, their educational needs, can have favorable responses towards them says Dr. Rasool. Four out of eight (4/8) respondents, despite facing numerous pedagogical issues, claimed that their teachers were cooperative enough. A student respondent shared that his teachers conducted Viva (oral examination) instead of opting for writer-mode of examinations. Similarly, Dr. Rasool recalled that some teachers helped him access books, by taking pictures of their content, which could then be read using computer softwares. There is

\textsuperscript{8} A general teacher is the one handling regular classrooms in mainstream education institutes also having students with disabilities in it. General teachers should have knowledge about inclusion and special education as well to tackle the challenges of teaching in inclusive classrooms (Mwakeyja, 2013: 1-2).

\textsuperscript{9} They exemplified this by sharing that even though they are enrolled in a computer course, they “have never touched computers here (in university) before,” making it seem like “hands on learning” is inaccessible for the visually impaired, even if it entails computers, which normally are the quintessential tool that can be used to create more equity for people who need audio support.
thus, a crucial need to train instructors to more effectively address the needs of university/college students with sensory impairments, and this may be necessary to ensure tertiary educational institutes to become inclusive.

4. Conclusion

Education is important for all. It is, therefore, also important for children and youth with visual impairments who are highly marginalized and stigmatized in Karachi, Pakistan, as this is a primary means to achieve upward social and economic mobility. Although the use of special schools to promote education among students with visual impairment is a step towards making education available for all, segregation hinder inclusion, which in turn produces and reproduces roadblocks to their emotional, social, educational and professional development. Communal and institutional discrimination against people with disabilities is endemic, albeit not necessarily intended. The Habitus is largely unconscious, and reflexivity is needed to see through the biases and limitations of our acquired individual and community dispositions.

Three (3) major recommendations are supported by this study and the literature. First, introduction of assistive devices and technology in the provision of tertiary education and aiding examination process can overcome barriers and create an inclusive classroom (also mentioned in Mwakeyja, 2013: 62). As suggested by both disability experts, to make books accessible “the university can create a system that provides books in the desired format which could be Braille, PDF, or audio recording.” In doing so, students will be able to access content and understand concepts independently instead of listening to voice-notes recorded by peers who explain those concepts as per their understanding and knowledge. Problems regarding access to education and participation in class can be resolved with the installation of computers and access to Wi-Fi, which allow students to access information more readily and efficiently than ever before (Ali & Hameed, 2015: 12). Also, the examination process should be facilitated either by shifting to computerized exams or by giving extra time to students with visual impairment, as mandated by HEC policy (2019) to provide them equitable opportunity (p. 7). The installation of technology is essential to accommodate students with visual impairment as part of an inclusive tertiary education model.

Second, STEM tertiary education is found inaccessible because of endemic problems at the intermediate or high school levels. Educational institutes at all levels need to make STEM education accessible for the visually impaired persons. With the use of assistive technology, behavioral change and structural development, it is possible for a visually impaired person to effectively pursue STEM specializations and excel in them. To do so, the education system as a whole should improve their primary education provision and mainstream the visually impaired in inclusive schools. The production of an empowering habitus in the visually impaired hinges on the practices of a nurturing societal habitus that provide opportunities and the means to make independent decisions on how to develop their potential and contribute to society.

And third, government should allocate special resources to an inclusive education system from primary to tertiary education. As Mr. Asghar elucidated: “to institutionalize inclusive behavior you must have strong policy or SOPs to enforce them upon the institution. Strong SOPs and policies can universalize inclusion.” Even if one reads the HEC (2019) policy or the UNCRPD (which Pakistan ratified) document, their provisions/implementation would require political will, responsive action and investment. Therefore, the government should now
focus on novel and collaborative strategies (with local organizations and social enterprises) along with the wide network of public and private schools across the country, to promote and devise implementation plans backed by investments, to address persistent shortcomings in the provision of inclusive education.

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5. References


